

## PATENT SPECIFICATION

DRAWINGS ATTACHED

1028,437



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Date of Application and filing Complete Specification Oct. 30, 1964.

No. 44325/64.

Application made in Sweden (No. 12215) on Nov. 6, 1963.

Complete Specification Published May 4, 1966.

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Index at acceptance: --F4 U42D; F2 G(1E, 7)

Int. Cl.: --F24 d//F 061

## COMPLETE SPECIFICATION

## Improvements in or relating to Hot Water Central Heating Systems

We, AGA-PLATFORADLING AKTIEBOLAG, of fication No. 194,002. The water in the tubular  
Helsingborg, Sweden, a Swedish Company,  
do hereby declare the invention, for which we  
pray that a patent may be granted to us, and  
the method by which it is to be performed,  
to be particularly described in and by the  
following statement:—

The present invention relates to a water  
distributing device for central heating systems  
of the single-tube type. In this type of system  
one and the same tubular conduit serves for  
the supply of heating water to a radiator or a  
group of radiators as well as for returning  
water therefrom. To this end, the tubular  
conduit is provided at the point where the  
radiator or group of radiators is to be connected  
with a tubular member within which  
is located a flow-restricting device and a supply  
tube and a return tube for the radiator being  
connected to said point, characterized in that  
the tubular member is provided with an  
exterior base plate having a tubular connecting  
piece disposed normally and centrally thereon  
relative to guiding and attaching means  
secured to the base plate, the interior of the  
connecting piece communicating with the interior  
of the tubular member on one side of  
the water distributor and an aperture being  
disposed within the base plate laterally of the  
connecting piece and communicating with the  
interior of the tubular member on the other  
side of the water distributor, there being  
further provided a junction member having  
a contact plate in contact with the base plate  
and adapted to be secured thereto by said  
guiding and attaching means and comprising  
an outlet channel having one end cooperating  
with the connecting piece and another end  
connected to the supply tube, and a return  
channel having one end connected to the aperture  
of the base plate and the other end connected  
to the return tube. An arrangement of  
this kind is described in British patent speci-

[Price 4s. 6d.]

According to the invention, the tubular conduit with its water distributor is provided with an exterior base plate having a tubular connecting piece disposed centrally on the base plate relative to guiding or attaching means thereof, the interior of the connecting piece communicating with the interior of the tubular member on one side of the water distributor, whereas an aperture disposed in the base plate laterally of the connecting piece communicates with the interior of the tubular member on the other side of the water distributor. A junction member has a contact plate in contact with the base plate and comprises an outlet channel, one end of which co-operates with the connecting piece and the other end of which is connected to a supply tube, as well as a return channel, one end of which is connected to the aperture of the base plate and the other end of which is connected to the return tube.

The invention is illustrated by an embodiment shown by way of example on the attached drawing. Fig. 1 is a vertical section of a water distributing device according to the invention. Fig. 2 is a section taken along lines II—II of Fig. 1. Fig. 3 is a view of a portion

of the device as shown by the arrows III—III of Fig. 1.

A tubular conduit 1 forms part of a central heating system of the single-tube type and thus serves for supplying heated water to a radiator 2 (shown only partially) as well as for leading off water therefrom. Inserted in the tubular conduit 1 is a tubular member 3 comprising a water distributor, which consists of a partition 4 and a tube 5 passing through the partition 4. On the outside the tubular member 3 is formed with an integral base plate 6, which supports a tubular connecting piece 7, the interior 8 of which communicates with the interior of the tubular member 3 on the other side of the partition 4. The connecting piece 7 projects centrally from the base plate 6 and is spaced equally from at least diametrically opposed holes, or, in the present instance, with equal spacings from all of the threaded holes 11 provided for mounting bolts or screws 12.

A junction member 13 is provided with a contact plate 14, which is held in pressure contact with the base plate via a washer 15 by means of the mounting bolts or screws which pass through holes in the contact plate 14. Provided in the junction member 13 is a flow channel 16, one mouth of which is disposed centrally on the contact plate 14 and co-operates with the tubular connecting piece 7, and the other mouth of which is formed by a threaded collar 17, in which there is inserted a supply tube 18, connecting to the radiator 2 through a valve 19. Furthermore, there is provided in the junction member 13 a return channel 20 extending between a recess 21 in the plate 14 and a threaded collar 22, into which is threadedly inserted a return tube 23 communicating with the radiator 2. The channel 20 leads to recesses 21 and 9 and an aperture 10.

It will be assumed that water flows in the tubular conduit 1 in the direction indicated by the arrows on the drawing. The water entering the tubular member 3 flows on the one hand through the tube 5 and onwards in the tubular conduit and on the other hand through the connecting piece 7, outlet channel 16, supply the tube 18 with the valve 19 to the radiator 2 and back through the return tube 23, return channel 20, recesses 21 and 9 and the aperture 10 to the tubular member 3 to continue its flow.

If the water in the tubular conduit 1 should have the opposite direction of flow to the one described, the tubular member 3 is mounted rotated 180° with the connecting piece 7 as the axis of rotation, whereby thus also with this direction of flow the connecting piece 7 with the interior 8 thereof will be in front of the distributor 4, 5 relative to the direction of flow and the flow of water through the junction member 13, the supply and return

tubes 18 and 23 as well as the radiator 2 takes place now also in the manner described above without any change being required with regard to the junction member 13, tubes 18 and 23 or radiator 2. The last-mentioned four elements may therefore be always mounted together in one and the same manner, and it is only necessary to reverse the tubular member 3 when mounting it depending on the expected direction of flow through the member 3.

The constructional details of the device may obviously be altered within the scope of the invention. In the embodiment shown, the mounting screws 12 serve as guides for the plates 6 and 14 relative to each other, but other guiding means permitting a 180° relative reversal of the plates 6 and 14 with the attached elements are possible.

#### WHAT WE CLAIM IS:—

1. Means for distributing water, in central heating systems of the single-tube type having a single tubular conduit for supplying hot water to and leading away the same from a radiator, or group of radiators, the tubular conduit being provided at the point where the radiator is to be connected with a tubular member within which is located a flow-restricting device, and a supply tube and a return tube for the radiator being connected to said point, characterized in that the tubular member is provided with an exterior base plate having a tubular connecting piece disposed normally and centrally thereon relative to guiding and attaching means secured to the base plate, the interior of the connecting piece communicating with the interior of the tubular member on one side of the flow restricting device and an aperture being disposed within the base plate laterally of the connecting piece and communicating with the interior of the tubular member on the other side of the flow restricting device there being further provided a junction member having a contact plate in contact with the base plate and adapted to be secured thereto by said guiding and attaching means and comprising a flow channel having one end co-operating with the connecting piece and another end connected to the radiator supply tube, and a return channel having one end connected to the aperture of the base plate and the other end connected to the return tube from the radiator.

2. Means for distributing water in central heating systems of the single-tube type substantially as described and shown in the accompanying drawings.

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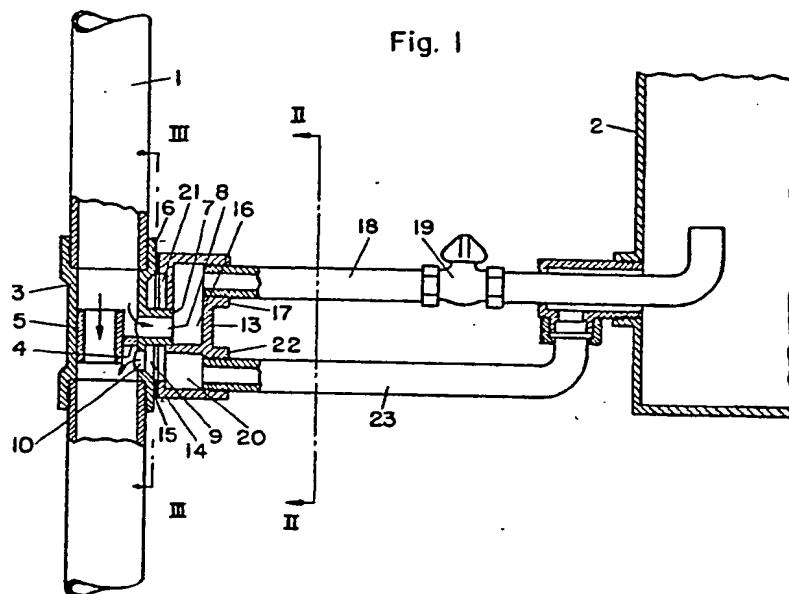


Fig. 2

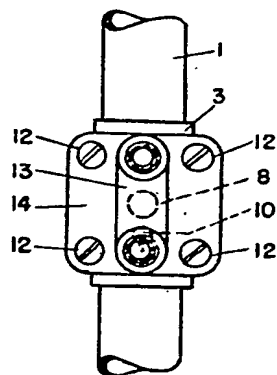


Fig. 3

